

**REMARKS**

The Official Action mailed March 25, 2005, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicants respectfully submit that this response is being timely filed.

The Applicants note with appreciation the consideration of the Information Disclosure Statement filed on June 27, 2003.

Claims 1-37 were pending in the present application prior to the above amendment. Claims 1, 3, 13, 14, 19, 28, and 29 have been amended to better recite the features of the present invention, and new claims 38-43 have been added to recite additional protection to which the Applicants are entitled. Claims 2, 4, 6, 8, 10, 12, 25, and 27 have been withdrawn from consideration by the Examiner. Accordingly, claims 1, 3, 5, 7, 9, 11, 13-24, 26, and 28-43 are currently elected, of which claims 1, 3, 13, 19, 28, and 29 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action objects to claim 14 asserting that the recitation "radiant heat method and gas heat method rapid thermal annealing" should read "radiant heat method, gas heat method, and rapid thermal annealing." In response, Claim 14 has been amended in conformance with the Examiner's suggestion. Reconsideration is requested in view thereof.

The Official Action further rejects claim 19 as indefinite, asserting that the limitation "introducing an impurity element into the crystalline semiconductor layer" lacks sufficient antecedent basis. In response, claim 19 has been amended to correct a typographical error in that "crystalline" has been corrected to --amorphous--. Favorable reconsideration is requested.

The Official Action next rejects claims 1, 3, 5, 7, 9, 11, 13-24, 26, and 28-37 as obvious based on the combination of U.S. Patent No. 6,376,336 to Buynoski and U.S. Patent No. 6,682,964 to Hwang et al. It is respectfully submitted that an obviousness

rejection cannot be maintained against these claims, as amended, for the reasons that follow.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Claims 1, 3, 13, 19, 28 and 29 have been amended herewith. Specifically, claims 1 and 3 have been amended to recite that "the remaining portion comprises the impurity," and claims 13, 19, 28 and 29 have been amended to recite that "the crystalline semiconductor layer after the removing comprises the impurity element." The amendments are supported by at least figures 7E, 8D and 9E, and the corresponding portions of the specification, for example. "The remaining portion" of Claims 1 and 3 in which the impurity is redistributed is used as a channel region of the insulated gate field effect transistor, and "the crystalline semiconductor layer after the removing" of Claims 13, 19, 28 and 29 in which the impurity element is redistributed may also be used as a channel region of an insulated gate field effect transistor.

To the contrary, Buynoski discloses that "the remainder of the monocrystalline silicon film remains free of doping by phosphorus" as shown in column 5, lines 41-45, which is clearly distinguished from the independent claims as amended. The redistributed impurity element of Claims 1, 3, 13, 19, 28 and 29 has the effect to make the semiconductor film intrinsic (as disclosed on page 5, lines 14-15 of the subject specification), and as a result this lowers off leakage current and reduces or eliminates back channel (as disclosed on page 2, line 19 to page 3, line 4 of the subject specification). Buynoski fails to disclose or suggest at least this feature of the present invention and thus it is respectfully submitted that a *prima facie* case of obviousness cannot be maintained. Reconsideration is requested.

New dependent claims 38-43 have been added to recite additional protection to which the Applicants are entitled. The features of claims 39-43 are supported by the specification at page 9, line 24 through page 10, line 19, for example. Applicants respectfully submit that new dependent claims 38-43 are in condition for allowance for at least the same reasons as noted above.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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